

FOR 24 (TO-1390 (Modified)  
(REV 11-2000)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES

013A.0001.U1(US)

DESIGNATED/ELECTED OFFICE (DO/EO/US)

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

CONCERNING A FILING UNDER 35 U.S.C. 371

10/030997

INTERNATIONAL APPLICATION NO.

PCT/FI00/00636

INTERNATIONAL FILING DATE

10 July 2000

PRIORITY DATE CLAIMED

9 July 1999

TITLE OF INVENTION

Interactive Service

APPLICANT(S) FOR DO/EO/US

VISURI, Petri Jaakko Johannes

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☒ has been communicated by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
  - a. ☒ is attached hereto.
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
  - a. ☒ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☐ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☒ Certificate of Mailing by Express Mail
23. ☐ Other items or information:



5/ptb

## Interactive service

The invention relates to an interactive service associated with distributed type transmissions, where the users of the service may influence the programme sent to them. The invention primarily relates to audio programmes.

From the prior art a method is known in which the listener/viewer of a programme phones his or her wish to the editor of the programme. Disadvantages of this method include slowness and randomness of the service. Another method is known in which a person may use his or her phone or computer to vote for various options given in the programme. Disadvantages of this method include the lack of personal service and relative slowness of the service.

An object of the invention is to reduce the above-mentioned disadvantages associated with the prior art. The method according to the invention for controlling a transmission facilitates subscriber-controlled contents of the transmission in real time. Moreover, user selections are collected automatically, which reduces the possibility of human errors in addition to reducing the delay brought about by the transmitting party responding to the user selections.

All above-mentioned advantages associated with the solution according to the invention can be advantageously realized by an embodiment in which synchronized options are sent in addition to the transmission to a GSM (Global System for Mobile Communications) communication device. User selections are delivered as SMS (Short Message Service) messages from the GSM communication device to a server which distributes the selection data to one or more transmitting parties, such as radio channels, for example. The radio channels may send response information to the user, change their transmissions according to the user selections or change the contents of a personal data packet, say an audio file, on the basis of the user selections.

The method according to the invention for providing an interactive programme service, in which method transmission control data are transferred from the terminal of a user of the service to the sender of the programme, and said control data are used for determining the contents of the transmission, and transmission is performed, is characterized in that

- said control data are sent from said terminal to a control forwarding node,
- said control data are transferred from the control forwarding node to the sender of the programme, and

- said determining of the contents of the transmission is realized automatically.

The arrangement according to the invention for providing an interactive programme service, which arrangement comprises a terminal of a user of the service, the sender of the programme, and a two-way communication system between these two, is characterized in that

- said communication system comprises a forwarding node for transferring transmission control data from the terminal to the sender of the programme,
- said sender of the programme comprises means for determining the contents of the transmission automatically according to said control data.

10 In this description and in the claims, the term "transmission" refers to the sending of a programme entity via radio transmitters of the distribution network or via a data network in an encoded form. A "sender" means in this description and in the claims a set of apparatus with which the programme sent to the users of the service is compiled and transmitted. A "forwarding node" means in this description and in the claims a place of storage for the control data coming from the users, the contents of which influence the transmissions. A "network address" means in this description and in the claims an information storage place in a server or terminal, to which the network address proper points.

20 Advantageous embodiments of the invention are described more closely in the following, referring to the drawings attached hereto.

Fig. 1 shows a block diagram of an embodiment of the invention,  
 Fig. 2 shows a block diagram of a second embodiment of the invention,  
 Fig. 3 shows a block diagram of a third embodiment of the invention,  
 Fig. 4 shows a block diagram of a fourth embodiment of the invention,  
 25 Fig. 5 shows a flow diagram of an embodiment of the inventive method, and  
 Fig. 6 shows a flow diagram of a second embodiment of the inventive method.

Fig. 1 shows an example of a system according to the invention. The forwarding node is a server 100 which typically is a world-wide-web server or web page in connection with the Internet, or a server in connection with the telephone network.

30 The senders 200, 201 typically are radio or television stations advantageously in a broadband radio connection with a terminal 300. The transmission path typically is e.g. a GSM, CDMA (Code Division Multiple Access), NMT, XDSL, UMTS (Universal Mobile Telephone Service), ADSL, Iridium, Teldesic and/or Inmarsat transmission path. The terminal 300 advantageously is a GSM, CDMA, NMT, XDSL,

UMTS, ADSL, Iridium, Teldesic and/or Inmarsat mobile station. The user 400 may advantageously make selections on his or her terminal 300 concerning the transmission and send his or her selections to the server 100 which forwards the selections to the senders 200, 201. Alternatively, the senders 200, 201 may inquire the server 100 for the selections. Based on the selections, the senders can control their transmissions and/or the personal transmission sent to the user 400 only.

A transmission advantageously includes options and/or instructions. The user 400 may e.g. vote his or her favourite song on a radio station's playlist or order additional information about advertisements of interest. Based on the information received from the users 400 the server and/or senders may send response information to the users, typically delivered by e-mail, SMS, voice mail and/or conventional letter mail or in some other way.

Fig. 2 shows a second example of a system according to the invention. The forwarding node in this case is a service page 600. The sender 200 is arranged so as to send the transmission to a network address 500. The transmission is advantageously packed into a user's personal transmission file which advantageously is an audio file or is in an FTP, Telnet, FTAM and/or SMS based format. Typically, however, the transmission file is an audio file. The user 400 receives transmission files at his or her terminal 300. The user 400 may advantageously influence the transmission by sending transmission control data, such as selections, to his or her service page 600 advantageously a world-wide web page, answering machine or some other means of storage in connection with the communication network.

The service page 600 may be advantageously arranged so as to send the transmission control data to the sender 200, or the sender 200 may be typically arranged so as to monitor the user feedback on the user's service page 600. Furthermore, it is obvious that the service page 600 may be located on the server 100 with a plurality of other service pages.

Fig. 3 shows an arrangement according to the inventive method on a larger scale. A sender 200 may be arranged so as to send individualized transmission files to a plurality of network addresses (500, 501, 502) and terminals (300, 301, 302). The sender 200 may advantageously monitor the feedback from a plurality of users on their respective service pages (600, 601, 602).

Fig. 4 shows an arrangement according to the inventive method on a larger scale. A plurality of senders 200, 201, 202 are advantageously arranged so as to transmit to a

network address 500. A given user and terminal 300 may advantageously observe a plurality of transmissions and send transmission control data for all of these to his or her service page 600. From the service page 600 the control data can be typically transferred to the senders 200, 201, 202, or optionally each sender 200, 201, 202 may initiate a connection to the service page 600 and transfer the desired information to itself.

In Fig. 5, transmission occurs in block 51, and the transmission is received at a terminal in step 52. After that, an optional service, such as mailing a brochure to a postal address, is selected in step 53. Next, this option selection is sent to the server, step 54, where the transmission control data are received 55.

In an advantageous embodiment, additional steps are taken after step 55. In this embodiment the subscriber, i.e. the user, is identified at the server, step 56. The server then requests the user to send the relevant information 57 if required by the optional service selected in step 53. Finally, a response is sent to the terminal either direct from the sender or server or from the sender via the server 58.

Fig. 6 shows a flow diagram of an embodiment 60 of the inventive method, characteristic of the arrangement depicted in Fig. 2. In step 61 a transmission file, such as an audio file, is sent to a network address where it is received 62. The transmission file is then sent to a terminal in step 63, where it is received, step 64. The user may make optional selections, which selections constitute the transmission control data that are sent to a service page in step 65, where said selections are received, step 66. The transmission control data are transmitted to the senders in step 67, and the senders receive the control data in step 68. At least one user's personal and/or public transmission is changed according to the control data received, step 69.

The above-mentioned embodiments of the invention have considerable advantages. The method according to the invention for controlling a transmission facilitates subscriber-controlled contents of the transmission in real time, and the user need not suffer from unnecessary delays. Furthermore, user selections are transferred in an automated manner in the form of data, reducing the possibility of human errors as well as reducing the delay associated with the response of the sender.

The invention was above described with reference to the embodiments discussed. However, it is obvious that the invention is not limited solely to those embodiments, but it covers all imaginable embodiments in accordance with the inventional idea defined by the independent claims.

## Claims

1. A method for providing an interactive programme service, in which method a program transmission is sent to at least one first terminal, transmission control data  
5 are transferred from a second terminal of a user of the service to the sender of the programme, and said control data are used for determining the contents of the transmission, and transmission is performed, **characterized** in that

- 10 - options are sent to said second terminal (300, 301, 302) for user to choose suitable control data,
- said control data are sent from said second terminal (300, 301, 302) to a control forwarding node,
- said control data are transferred from the control forwarding node to the sender (200, 201, 202) of the programme, and
- 15 - said determining of the contents of the transmission is realized automatically.

2. A method according to claim 1 for providing an interactive programme service, **characterized** in that said first terminal is at least one of the following:  
20 television receiver and radio receiver.

3. A method according to claim 1 for providing an interactive programme service, **characterized** in that said second terminal (300, 301, 302) is a mobile communication device.  
25

4. A method according to claim 1 for providing an interactive programme service, **characterized** in that said first terminal is second terminal (300, 301, 302).

5. A method according to claim 1 for providing an interactive programme service, **characterized** in that said forwarding node is a public server (100) to  
30 which any user (400) of the programme service may send.

6. A method according to claim 1 for providing an interactive programme service, **characterized** in that  
35

- said forwarding node is a user-specific service page (600, 601, 602),

- said transmission is realized in file format to the network address (500, 501, 502) of said user, and
- said file is transferred from said network address to the user's first terminal.

5 7. A method according to claim 1, **characterized** in that the transmission control data are selections of options associated with a given transmission.

8. A method according to claim 6, **characterized** in that the transmission control data are selections for the whole transmission.

10

9. A method according to claim 1, **characterized** in that in addition to the programme transmission the sender sends response information to the user.

15

10. A method according to claim 9, **characterized** in that said response information is delivered in the form of e-mail, SMS message or voice mail.

20

11. A method according to claim 1, **characterized** in that the transmission data and transmission control data are placed in frames according to the FTP, Telnet, FTAM or SMS protocol on the application layer.

12. A method according to claim 1, **characterized** in that said transmission is a radio or television transmission.

25

13. An arrangement for providing an interactive programme service, which arrangement comprises at least one first terminal for representing the programme, a second terminal of a user of the service, the sender of the programme, and a two-way communication system between these two, **characterized** in that

30

- said arrangement is arranged to send options to said second terminal (300, 301, 302) for user to choose suitable control data

- said communication system comprises a forwarding node for transferring transmission control data from the second terminal (300, 301, 302) to the sender (200, 201, 202) of the programme,

35

- said sender of the programme comprises means for determining the contents of the transmission automatically according to said control data.

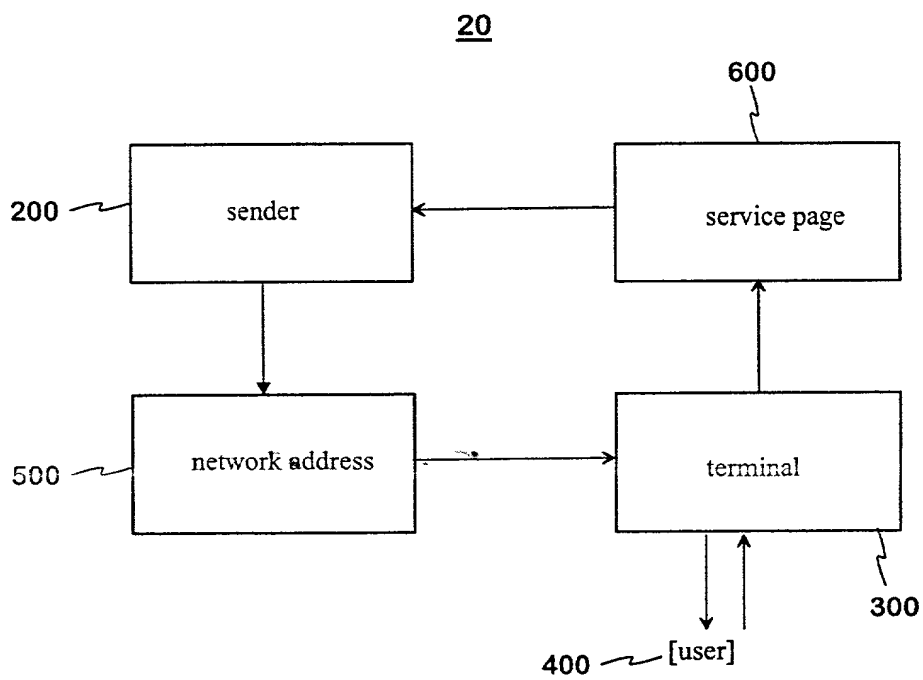
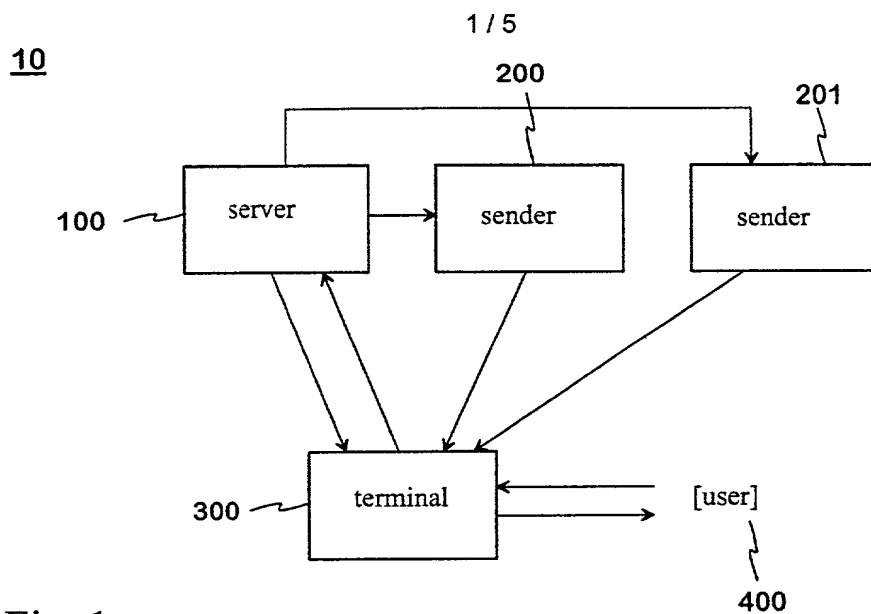


14. An arrangement according to claim 13 for providing an interactive programme service, **characterized** in that said first terminal is at least one of the following: television receiver and radio receiver.
- 5 15. An arrangement according to claim 13 for providing an interactive programme service, **characterized** in that said second terminal (300, 301, 302) is a mobile communication device.
- 10 16. An arrangement according to claim 13 for providing an interactive programme service, **characterized** in that said first terminal is second terminal (300, 301, 302).
- 15 17. An arrangement according to claim 13 for providing an interactive programme service, **characterized** in that said forwarding node is a public server (100) to which any user (400) of the programme service may send.
18. An arrangement according to claim 13 for providing an interactive programme service, where the transmission is realized in file format, **characterized** in that
- said forwarding node is a user-specific service page (600, 601, 602),
  - 20 - said communication system comprises the user's network address (500, 501, 502) and means for transferring transmission files from the sender to said network address, and
  - said communication system further comprises means for transferring said files from said network address to the user's terminal.
- 25 19. An arrangement according to claim 13, **characterized** in that said terminal (300, 301, 302) is a mobile station.
- 30 20. An arrangement according to claim 18, **characterized** in that said network address (500, 501, 502) is the user's IP address, phone number, answering machine number or fax number.
- 35 21. An arrangement according to claim 18, **characterized** in that said means for transferring transmission files comprise a broadband XDSL, ADSL or UMTS channel.

**(57) Abstract**

The invention relates to an interactive service associated with distributed type programmes, where the users of the service may influence the transmissions sent to them, e.g. by making selections concerning the transmission. The term transmission refers to the sending of a programme via radio transmitters of the distribution network or via a data network in an encoded form. User selections are transferred e.g. in the form of SMS messages from the terminal (300, 301, 302) to a server which distributes the selection data to one or more senders (200) such as radio channels, for example. The radio channels may send response information to the user, change their transmissions according to the user selections or change the contents of a personal data packet, say an audio file, on the basis of the user selections.

Fig. 3



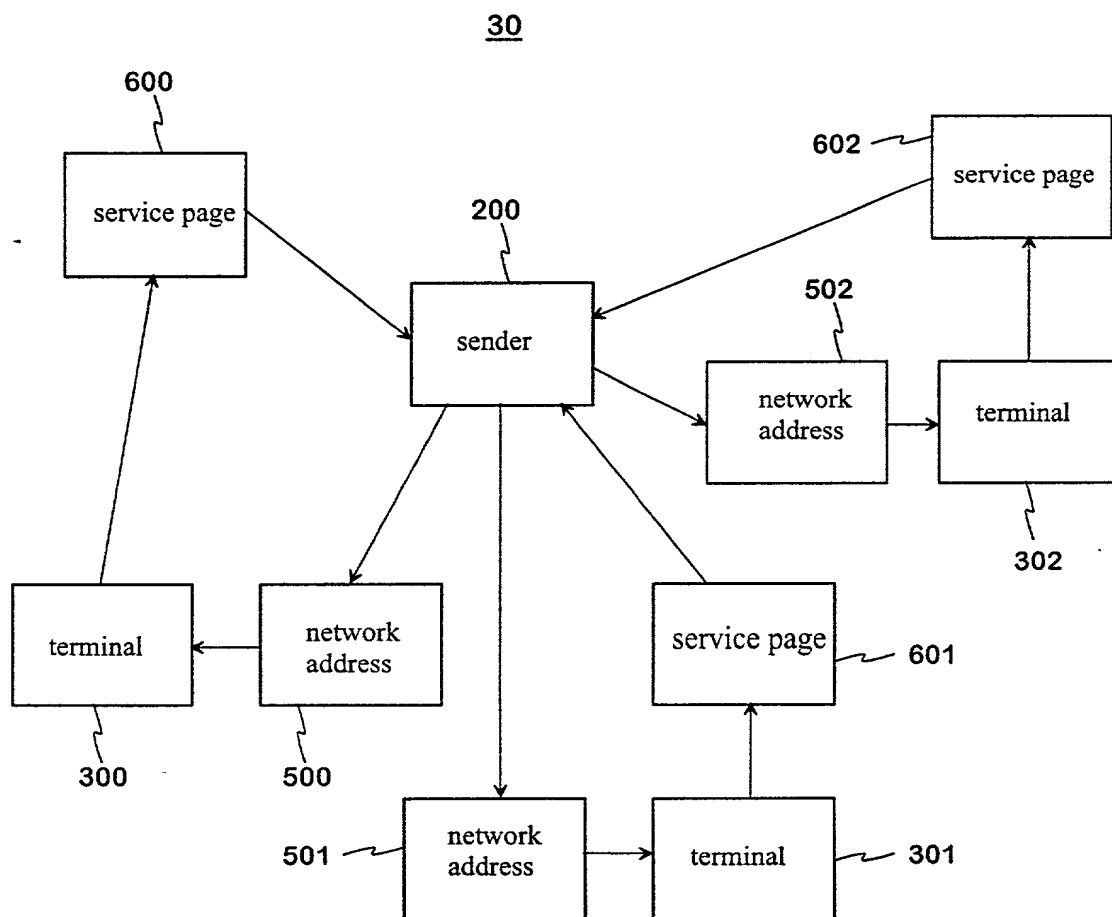


Fig. 3

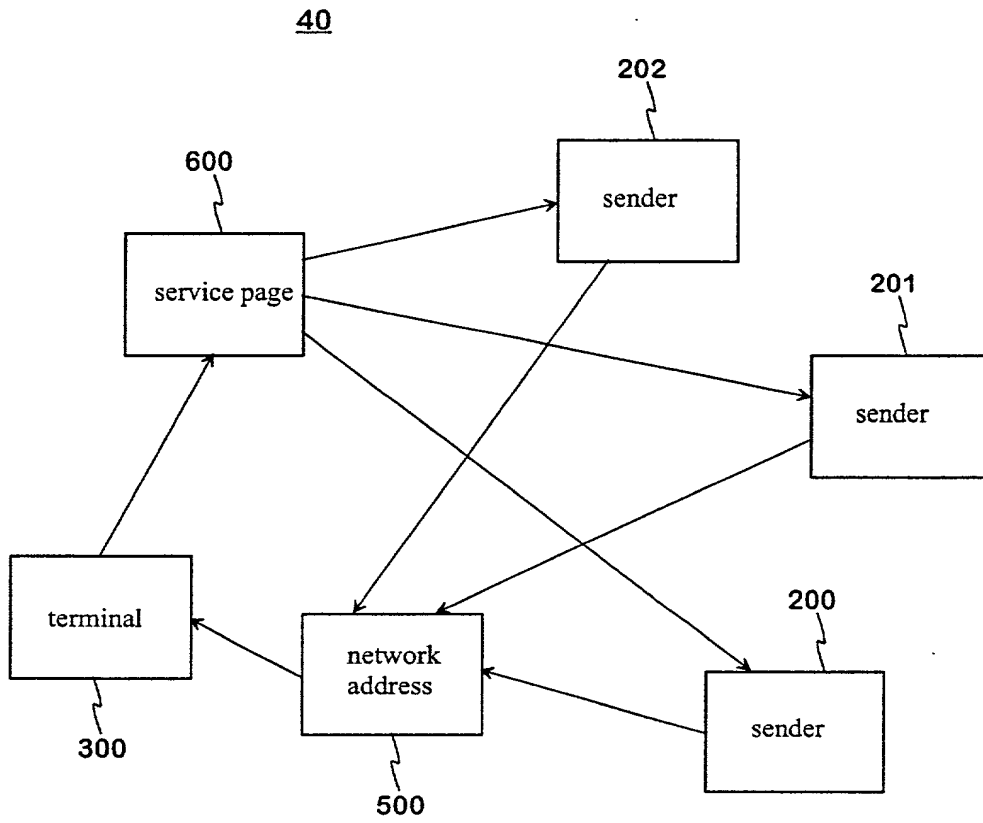
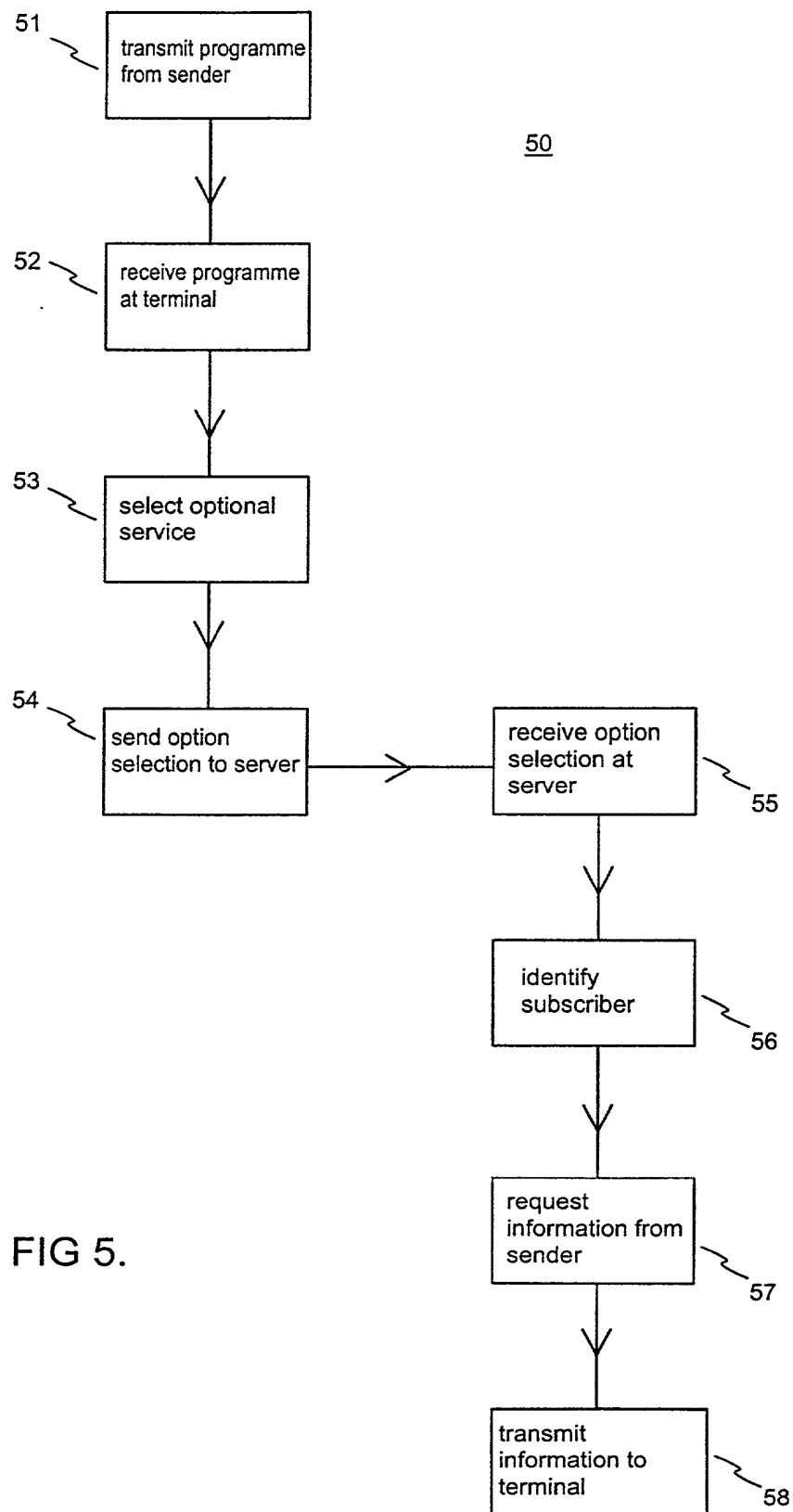
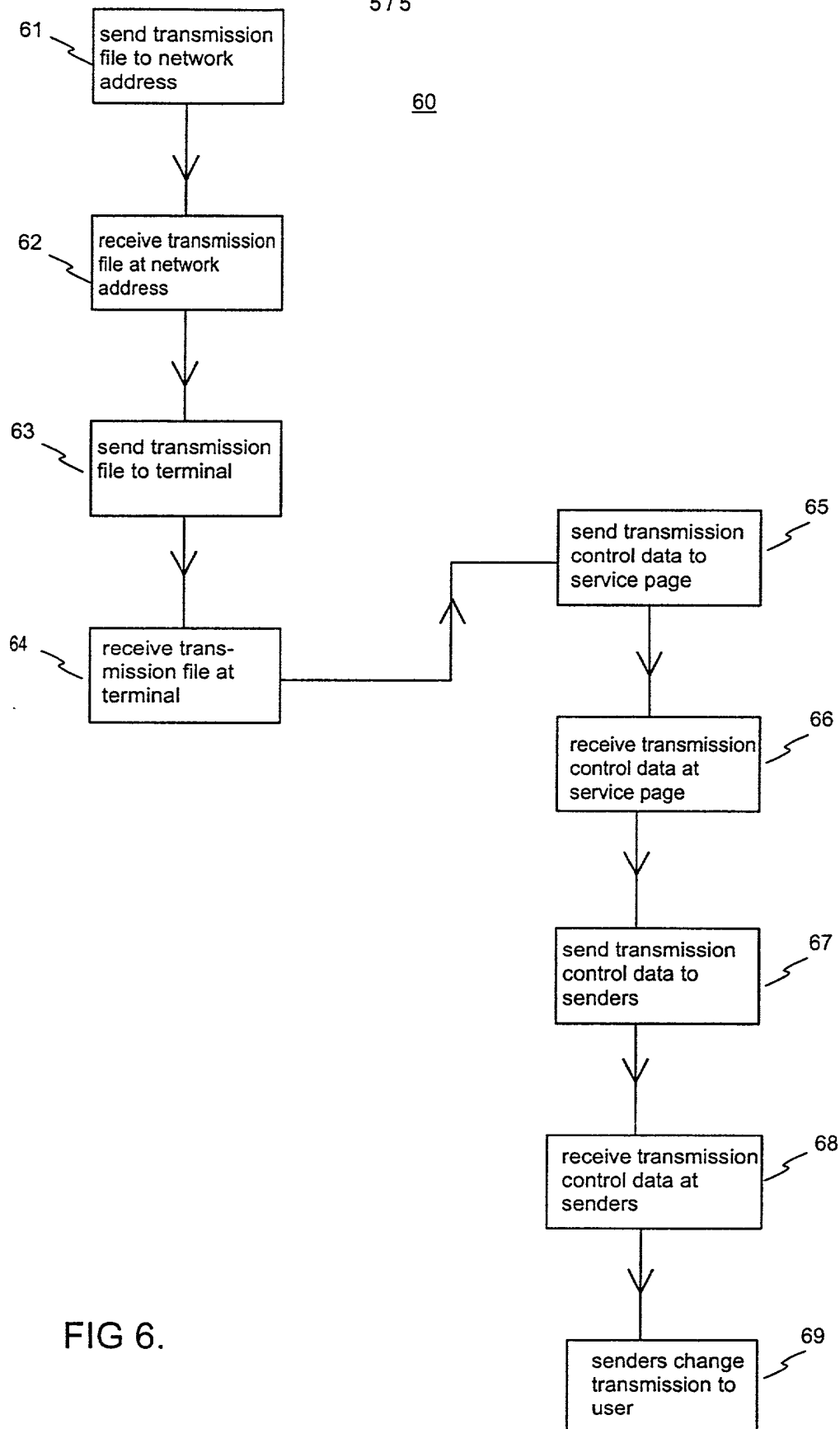


Fig. 4





**DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION**

Docket No. 013A.0001.U1(US)

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought on the invention entitled:

**INTERACTIVE SERVICE**

the specification of which

(check one) \_\_\_ is attached hereto.

\_\_\_ X was filed Herewith as Application Serial No. Unknown

\_\_\_ and/or that was amended on \_\_\_\_\_.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to the patentability of this application as defined in Title 37, Code of Federal Regulations, §1.56

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate(s) listed below and have also identified below any foreign application(s) for patent or inventor's certificate(s) having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority Claimed

991581 FI July 9, 1999 X Yes \_\_\_ No  
(Number) (Country) (Day/Mon/Year Filed)

PCT/FI00/00636 PCT July 10, 2000 X Yes \_\_\_ No  
(Number) (Country) (Day/Mon/Year Filed)

1

VAST

202010 26502001



I hereby claim benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.)	(Filing Date)	(Status)
--------------------------	---------------	----------

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the attorneys and/or agents listed below to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

All Attorneys and/or Agents listed under Customer Number: 29683 including:

NAMES	REGISTRATION NUMBERS
Mark Harrington	31,686
Harry Smith	32,493
Kevin Correll	46,641

**SEND CORRESPONDENCE TO:**

Customer Number: 29683.  
i.e., Harrington & Smith LLP  
1809 Black Rock Turnpike  
Fairfield, CT 06432

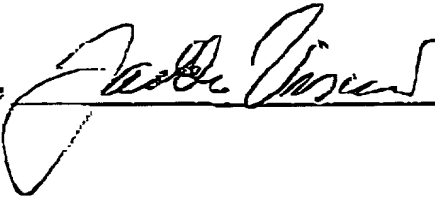
**DIRECT TELEPHONE CALLS TO:**

Harry F. Smith  
Telephone: (203) 366-4084  
Facsimile: (203) 366-4109

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

FULL NAME  
OF INVENTORLAST NAME  
VISURIFIRST NAME  
PetriMIDDLE NAME  
Jaakko JohannesRESIDENCE  
CITIZENSHIPSTATE OR COUNTRY  
FinlandCITIZENSHIP  
FinlandPOST OFFICE  
ADDRESSP.O. ADDRESS  
Siltatie 1 BCITY & COUNTRY  
Helsinki, FIN-00410, Finland

Signature



Date

7.1.2002

20080101 16:52 100